

CLAIMS

1. A method of compensating a radiation sensor for changes in at least one
5 operational characteristic of the sensor due to a temperature variation of the sensor,
comprising an act of:

dynamically adjusting at least one of at least one operating parameter associated
with the radiation sensor and at least one calibration parameter associated with the
radiation sensor based on the temperature variation of the sensor.

2. The method of claim 1, wherein the at least one operational characteristic
of the sensor that changes due to the temperature variation of the sensor includes a
resistance of the sensor.

3. The method of claim 1, wherein the at least one operating parameter
associated with the sensor includes at least one of a DC bias voltage applied to the
sensor, a DC bias current applied to the sensor, and an AC bias waveform applied to the
sensor.

4. The method of claim 1, wherein the sensor includes a plurality of
radiation detectors, and wherein the at least one calibration parameter associated with the
sensor includes at least one of an offset error value for each radiation detector and a gain
value for each radiation detector.

5. The method of claim 4, wherein the at least one operational characteristic
of the sensor that changes due to the temperature variation of the sensor includes at least
one of an offset error variation and a gain variation.

6. An apparatus, comprising:
30 a controller to compensate a radiation sensor for changes in at least one
operational characteristic of the sensor due to a temperature variation of the sensor, the
controller dynamically adjusting at least one of at least one operating parameter

associated with the radiation sensor and at least one calibration parameter associated with the radiation sensor based on the temperature variation of the sensor.

7. The apparatus of claim 6, wherein the at least one operational
5 characteristic of the sensor that changes due to the temperature variation of the sensor includes a resistance of the sensor.

8. The apparatus of claim 6, wherein the at least one operating parameter
10 includes at least one of a DC bias voltage applied to the sensor, a DC bias current applied to the sensor, and an AC bias waveform applied to the sensor.

9. The apparatus of claim 6, wherein the sensor includes a plurality of
15 radiation detectors, and wherein the at least one calibration parameter associated with the sensor includes at least one of an offset error value for each radiation detector and a gain value for each radiation detector.

10. The apparatus of claim 9, wherein the at least one operational
20 characteristic of the sensor that changes due to the temperature variation of the sensor includes at least one of an offset error variation and a gain variation.

11. A method of compensating a radiation sensor for changes in at least one
operational characteristic of the sensor due to a temperature variation of
the sensor, comprising:

dynamically adjusting at least one operating parameter associated with the
25 radiation sensor or at least one calibration parameter associated with the radiation sensor based on the temperature variation of the sensor.

12. An apparatus, comprising:
a controller to compensate a radiation sensor for changes in at least one
30 operational characteristic of the sensor due to a temperature variation of the sensor, the controller dynamically adjusting at least one operating parameter associated with the

radiation sensor or at least one calibration parameter associated with the radiation sensor based on the temperature variation of the sensor.

1. A method for calibrating a radiation sensor, comprising:
determining a temperature variation of the radiation sensor;
determining a calibration parameter associated with the radiation sensor based on the temperature variation of the sensor.